REMARKS/ARGUMENTS

I. Introduction:

Claim 17 is amended and claim 18 is canceled herein. Claims 31-41 have been withdrawn from consideration by the Examiner as being directed to a non-elected distinct invention. Claim 1-16, 27-30, and 51-53 have previously been canceled. With entry of this amendment, claims 17, 19-26, 42-50, and 54-56 will be pending.

II. Drawings:

Applicants respectfully submit that new Figure 14 does not contain new subject matter. Figure 14 schematically shows a check valve forming a flow restriction device at a reaction well, as described on page 15, lines 18-20 of the specification. As noted in the originally filed specification, the flow restriction device 92 may include check valves which allow flow into the reaction wells 30 but restrict flow from the reaction wells to the pressure chamber 26. In rejecting the drawings, the Examiner stated that "the instant specification does not describe the check valves in any particular detail for it to be represented as a circle embedded in an angle as shown in new drawing Fig. 14." However, the symbol shown in Fig. 14 is the standard symbol for a simple check valve (non-return valve) in accordance with ISO (International Organization for Standardization) 1219-1 (Fluid power systems and components – Graphic symbols and circuit diagrams). The symbol is commonly used and recognized by those skilled in the art as a check valve, which operates to block flow in one direction and allow essentially free flow or flow at a prescribed pressure in the opposite direction. The circle and angle represent an element (e.g., ball, poppet, sleeve or seal) positioned adjacent to a corresponding seat, such that the element and seat create a seal when the check valve is in a closed position (as shown schematically in Fig. 14). As the pressure in the chamber increases to a level above the pressure in the reaction well 30 (or the pressure in the

reaction well plus a spring force, if the check valve is spring loaded), the element will be forced away from the seat and fluid will be allowed to enter the reaction well. If the pressure in the reaction well increases above the pressure in the chamber, the element will be forced into contact with the seat and the check valve will block flow out of the reaction well. Thus, the check valve shown schematically in Fig. 14 is drawn as described in the originally filed specification and according to a standard symbol well known by those skilled in the art.

Accordingly, applicants request that Fig. 14 be accepted and entered in the instant application.

III. Claim Rejections Under 35 U.S.C. §112:

Claims 25 and 49 have previously been amended to clarify that each of the reaction wells comprises a vial for receiving components for the reaction. Since the vial and base together form the reaction well, there is still a direct fluid communication path between each of the reaction wells and the pressure chamber. Claims 25 and 49 are therefore submitted as complying with the requirements of 35 U.S.C. 112.

Applicants respectfully submit that claims 17, 42, 44, and 54 clearly set forth the structural relationships or elements that allow the flow passageways of the flow restriction device to provide a direct fluid communication path between one of the reaction wells and the pressure chamber while reducing cross-talk between the plurality of reaction wells. As set forth in claim 17, the apparatus includes: a base having reaction wells for receiving components for the reaction; a cover for sealing engagement with the base to form a housing and define a common pressure chamber in communication with the reaction wells; an inlet port for supplying pressurized fluid to the pressure chamber; and a flow restriction device. The flow restriction device is positioned adjacent to open ends of the reaction wells and includes flow passageways which provide a direct communication path between one of the reaction wells and the pressure chamber. The flow restriction device also reduces cross-talk between the

reaction wells. This is accomplished, for example, by providing in the flow restriction device, very small vent holes (e.g., micromachined holes) or check valves. Claim 54 further specifies that the flow passageways provide the only fluid communication path between the reaction wells and pressure chamber. Thus, in claim 54, the fluid restriction device (e.g., vent holes, check valves) provides the only fluid path between the chamber formed by the housing and the reaction wells.

Claims 17, 42, 44, and 54 are therefore believed to comply with the requirements of 35 U.S.C. 112.

IV. Claim Rejections Under 35 U.S.C. §102:

Claims 17, 21, and 23-25 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,011,779 (Maimon).

Maimon discloses an apparatus for rapid deposition of test samples on an absorbent support. Figs. 5 and 6 illustrate a punch apparatus for use in detaching and separating a plurality of test sample spots absorbed on an absorbent assay support. The punch device includes a base 200 in which a sheet of nitrocellulose paper 4 with discrete test samples 10 is placed. A member 201 is provided with individual punch members 202 for punching out paper discs, each of which is arranged to circumscribe one of the absorbed test samples 10. Openings 203 are formed in the base 200 so that the punched samples can be removed from the punch device. An air blow nozzle 204 is mounted at the top of the hinged member 201 to blow air from an air tube 211 through the punch member 202 via a manifold 210 to facilitate passage of the punched samples through the openings 203 and into tubes 205 arranged in a rack 206 positioned below the base 200.

Claim 17 is directed to an apparatus for use in parallel reaction of materials and generally comprises, among other things, a base having a plurality of reaction wells, a cover configured for sealing engagement with the base to define a common pressure chamber in communication with the reaction wells, an inlet port for supplying

pressurized fluid to the chamber, and a flow restriction device comprising flow passageways to provide fluid communication between the reaction wells and the pressure chamber while reducing cross-talk between the reaction wells. Claim 17 has been amended to clarify that the material and structure of the pressure chamber is such that the chamber is operable to sustain an operating pressure of at least 40 psig.

The device shown in Fig. 6 of the Maimon patent is for use in punching samples from a sheet and inserting them into individual vials. Inlet 204 provides an opening to blow air into the device and force the punched samples into the reaction wells. As shown in Fig. 6, no gaskets or sealing means are provided between the hinged member 201, base 200, or rack 206. The apparatus is not configured to sustain any significant pressure, and certainly not an operating pressure of at least 30 psig.

Accordingly, claim 17, and claims 21 and 23-25, depending directly therefrom, are submitted as not anticipated by Maimon.

Claims 17, 19, 21, 23, 24, 42, 43, 45-47, and 54 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,190,666 (Bisconte).

Bisconte discloses an apparatus for filtering a plurality of fluid samples containing particles such as bacteria. The apparatus may be used, for example, in analyses performed in the food industry (e.g., milk, beer, mineral water, fruit juice) in which the presence of bacteria must be monitored. As shown in Fig. 2, the apparatus includes two filters 2a, 2b and a gasket 3 interposed therebetween. The gasket includes a plurality of perforations 4. The filters are pressed in a sealed manner against the gasket 3 by two clamping blocks 5a and 5b. The clamping blocks each include a perforated disk 7a, 7b having perforations in alignment with the perforations in the gasket. Clamping block 5a includes a perforated plate 13a. Air under pressure is injected into chamber 27 via orifice 28 provided through enclosure 8a of clamping block 5a. Plate 13a includes an opening for passing air under pressure into chamber 27 so that samples are delivered to the filters 2a, 2b via dip tubes 21, pipes 12a, and gasket

3. Clamping of the block 5a and tray 20 creates the sealed chamber 27 between the perforated plate 13a, block 5a, and the storage wells 19.

Applicants' invention, as set forth in claims 17, 19, 42, and 47 require a flow restriction device positioned adjacent to open ends of the reaction wells and comprising flow passageways which provide a fluid communication path between one of the reaction wells and a common pressure chamber. The Examiner refers to plate 13a as a flow restriction device. However, this plate simply defines chamber 27 and provides flow passages for pipes 12a. The plate 13a is clearly spaced from the openings of the storage wells such that fluids can easily pass between the wells. Furthermore, the plate does not provide a fluid communication path between one of the reaction wells and a common pressure chamber since the pressure chamber 27 is located between the plate and the storage wells. The perforations in plate 13a are provided for insertion of pipes 12a which carry fluid from the storage wells up through the filters and into pipes 12b (Fig. 2). The plate is not disposed between the storage wells and chamber and does not reduce cross-talk between wells.

Accordingly, claims 17, 19, 42, and 47 are submitted as not anticipated by Bisconte.

Claims 21, 23, and 24, depending from claim 17, and claims 43, 45, and 46, depending from claim 42, are submitted as patentable for the same reasons as claims 17 and 42.

Claim 54 is submitted as patentable over Bisconte which does not show a plurality of flow passageways providing the only fluid communication path between a plurality of reaction wells and a common pressure chamber. As discussed above, there is a direct fluid communication path between all of the wells and the chamber in the space below plate 13a.

V. Claim Rejections Under 35 U.S.C. §103:

Claims 25, 26, 49, and 50 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Bisconte in view of U.S. Patent No. 6,485,692 (Freitag et al.) and/or U.S. Patent No. 5,544,683 (Guhl).

The Freitag et al. patent is assigned to Symyx Technologies, Inc., which is the same assignee as the subject patent application. The American Inventors Protection Act (AIPA) amended 35 U.S.C. § 103(c) to exclude subject matter developed by another person which qualifies as prior art under Section 102(e), provided that this subject matter and the claimed invention were commonly owned at the time the claimed invention was made. This amendment to Section 103(c) applies to patent applications filed on or after November 29, 1999. (American Inventors Protection Act of 1999, Pub. L. No. 106-113, Sec. 4807(b)). The subject patent application was filed July 19, 2000 and the Freitag et al. patent issued on November 26, 2002. The subject invention was commonly owned with the subject matter of the Freitag et al. patent at the time the claimed invention was made. Accordingly, Freitag et al. is not prior art with regard to the subject patent application.

Guhl discloses a device for the quantitative filling of powdered or granulated samples for analytic measurement and shaking. Fig. 2 illustrates a shaking and holding device 15 comprising a housing 150 containing a first chamber 151, second chamber 152, and a lid 153, which closes chamber 152. The first and second chambers are connected by a bore 154. A sample vial 19 is placed in chamber 151 and a spring 155 is positioned between the bottom of the sample vial and the bottom of chamber 151. Bore 154 is closed by a metal sphere 156 which is pressed by a second spring 157 onto the bore. Pressure is applied to chamber 152 to oscillate the sample vial. The sample vial 19 has an open top so that when the shaking and holding device 15 is positioned and tilted by a robot arm 14 the sample substance can run down into the measuring vial 21 (Fig. 5).

Claims 25 and 49, depending from claims 17 and 42, respectively, are submitted as patentable over Bisconte and Guhl for the reasons discussed above with respect to claims 17 and 42.

Claims 26 and 50 are directed to an apparatus for use in parallel reaction of materials and include a base having a plurality of reaction wells. Claim 26 requires a flow restriction device comprising flow passageways configured to provide a fluid communication path between one of the reaction wells and a pressure chamber while reducing cross-talk between the reactions wells. Claim 50 includes a flow restriction device positioned adjacent to open ends of the reactions wells and comprising flow passageways which provide fluid communication between the reaction wells and the pressure chamber while reducing cross-talk between the reaction wells. As discussed above, Bisconte does not disclose a flow restriction device comprising flow passageways configured to provide a fluid communication path between a reaction well and pressure chamber while reducing cross-talk between the reactions wells. Claims 26 and 50 are therefore submitted as nonobvious over Bisconte and Guhl.

Claims 26 and 50 further require a plurality of vials inserted into the reactions wells and a plurality of springs disposed at the bottom of the reaction wells for biasing the vials upward against a flow restriction device. Neither Bisconte nor Guhl show or suggest vials inserted into reaction wells with a plurality of springs disposed at the bottom of the reaction wells for biasing vials upward against a flow restriction device. As previously discussed, Bisconte does not disclose a flow restriction device. The spring of Guhl is simply used to oscillate a powder sample vial along a cylindrical axis. The sample vial is not configured to sustain any pressure and is open to the atmosphere. The spring is not used to bias the vial against a flow restriction device or any other element.

Furthermore, applicants submit that there is no suggestion to combine the teachings of Bisconte with Guhl to produce the claimed invention. The Examiner states that it would have been obvious to one having ordinary skill in the art to provide each of

the wells of Bisconte with a vessel and spring disposed at the bottom of the well to accommodate agitation of the contents of the vessels. Even assuming, for the sake of discussion, that the spring and vessel of Guhl could be inserted into the wells of Bisconte to oscillate the vessels, the vessels could not be biased upward against plate 13a, since this would block communication with the common pressure chamber 27.

Accordingly, claims 25, 26, 49, and 50 are submitted as patentable over Bisconte, Freitag et al., and Guhl.

Claims 20, 48, 55, and 56 stand rejected under 35 U.S.C. 103 (a) as being unpatentable over Bisconte in view of U.S. Patent No. 6,410,332 (Desrosiers et al.) and/or U.S. Patent No. 5,846,396 (Zanzucchi et al.).

The Desrosiers et al. patent is assigned to Symyx Technologies, Inc., which is the same assignee as the subject patent application. The subject patent application was filed July 19, 2000 and the Desrosiers et al. patent issued on June 25, 2002. The subject invention was commonly owned with the subject matter of the Desrosiers et al. patent at the time the claimed invention was made. Accordingly, the Desrosiers et al. patent is not prior art with regard to the subject patent application.

The Zanzucchi et al. patent is directed to a liquid distribution system which includes two reservoirs and a plurality of feeder channels connected to the reservoirs. In some applications of the distribution system, a vapor pressure may develop in reaction cell 350, causing a back pressure in the distribution plate 310 (Fig. 5). A valve may be inserted into vertical channel 390 to eliminate the backpressure. The valve is formed of materials having a thermal expansion mismatch. When the temperature in the reaction cell 350 is low, a ball valve 62 is in its normal position permitting free flow of fluids into well 36 (Fig. 21A). As the temperature in the well increases, the ball valve moves to a cooler position (Fig. 21B), blocking the vertical channel to isolate the reaction cell and prevent fluids from passing into and out of the well. A check valve may also be used with a magnetic bearing which can be moved to allow counter flow with externally applied magnetic fields.

Neither Bisconte nor Zanzucchi et al., show or suggest a flow restriction device comprising a plurality of check valves aligned with reaction wells and configured to allow flow into the reaction wells and restrict flow from the reaction wells into a common pressure chamber to provide fluid communication between the reaction wells and pressure chamber while reducing cross-talk between the reaction wells, as required by claims 20, 48, 55, and 56.

As previously discussed, Bisconte does not show or suggest a flow restriction device. Even if pipes 12a of Bisconte were removed from plate 13a and check valves were inserted into the plate, they would not restrict flow from the reaction wells into the pressure chamber since the reaction wells are located next to the chamber rather than the plate.

Zanzucchi et al. do not teach check valves aligned with reaction wells to prevent fluid from leaving the wells, as suggested by the Examiner. The valves in Zanzucchi et al. are used to release back pressure and are temperature controlled to allow free flow or block flow in both directions, or configured to allow manual operation to allow fluid flow counter to a flow direction established by a check valve.

Accordingly, claims 20, 48, 55, and 56 are submitted as patentable over Bisconte and Zanzucchi et al.

Claims 22 and 44 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Bisconte in view of U.S. Patent No. 4,927,604 (Mathus et al.) and/or U.S. Patent No. 4,493,815 (Fernwood et al.) and/or U.S. Patent No. 6,376,256 (Dunnington et al.).

Mathus et al. show a flexible sheet which seals an area between wells (Fig. 3). The sheet seals with upper edges of the wells. Fernwood et al. disclose a test plate assembly including a lower template 5 having apertures 10, gasket 4 having apertures 9, and upper template 2. The apertures in the gasket match the openings in the lower and upper template in both diameter and location to provide a continuous channel of constant diameter extending through the lower template. Dunnington et al. show an apparatus having a sealing gasket 17 positioned between two plates (Fig. 5).

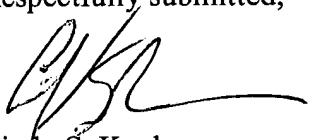
Claims 22 and 44 require an elastomeric sheet positioned adjacent to open ends of reactions wells and comprising flow passageways to provide fluid communication between reaction wells and a common pressure chamber while reducing cross-talk between the reaction wells. As discussed above, Bisconte does not show or suggest a flow restriction device positioned adjacent open ends of reaction wells to reduce cross-talk between wells. The references cited, including Mathus et al., Fernwood et al., and Dunnington et al. do not remedy the deficiencies of Bisconte. These references show gaskets or sealing sheets which do not provide fluid communication between reaction wells and a common pressure chamber while reducing cross-talk between reaction wells.

Accordingly, claims 22 and 44 are submitted as patentable over the prior art of record.

VI. Conclusion:

In view of the foregoing, claims 17, 19-26, 42-50, and 54-56 are submitted as patentable over the prior art of record. Accordingly, favorable reconsideration and allowance of this application is requested. If the Examiner feels that a telephone conference would in any way expedite prosecution of the application, please do not hesitate to call the undersigned at (408) 446-8695.

Respectfully submitted,



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